

SEQUENCE LISTING

<110> Wise, Lyn M  
Mercer, Andrew A  
Savory, Loreen J  
Fleming, Stephen B  
Stacker, Stephen

<120> VASCULAR ENOTHELIAL GROWTH FACTOR-LIKE PROTEIN FROM ORF  
VIRUS NZ2 BINDS AND ACTIVATES MAMMALIAN VEGF  
RECEPTOR-2, AND USES THEREOF

<130> Sequence Listing for 44803

<140>  
<141>

<150> 60/106,689  
<151> 1998-11-02

<150> 60/106,800  
<151> 1998-11-03

<160> 11

<170> PatentIn Ver. 2.0

<210> 1  
<211> 402  
<212> DNA  
<213> Orf virus

<400> 1  
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gacagcaaca cgaaggatg gtccgaagtg ctgaaaggca gcgagtgc当地 gcctaggccg 120  
atttgtgttc ctgttaagcga gacgcaccca gagctgactt ctcagcggtt caaccgc当地 180  
tgtgtcacgt tgatgcgttg cggcgggtgc tgcaacgc当地 agagcttggatgcgtcccc 240  
acggaagaag taaacgtgac gatggaactc ctgggggc当地 cgggctccgg tagtaacggg 300  
atgcaacgtc tgagcttc当地 agagcataag aaatgc当地 gtagaccacg attcacaacc 360  
acgccaccga cgaccacaag gccgccc当地 agacgc当地 gct ag 402

<210> 2  
<211> 133  
<212> PRT  
<213> Orf virus

<400> 2  
Met Lys Leu Leu Val Gly Ile Leu Val Ala Val Cys Leu His Gln Tyr

1

5

10

15

Leu Leu Asn Ala Asp Ser Asn Thr Lys Gly Trp Ser Glu Val Leu Lys  
20 25 30

Gly Ser Glu Cys Lys Pro Arg Pro Ile Val Val Pro Val Ser Glu Thr  
35 40 45

His Pro Glu Leu Thr Ser Gln Arg Phe Asn Pro Pro Cys Val Thr Leu  
50 55 60

Met Arg Cys Gly Gly Cys Cys Asn Asp Glu Ser Leu Glu Cys Val Pro  
65 70 75 80

Thr Glu Glu Val Asn Val Thr Met Glu Leu Leu Gly Ala Ser Gly Ser  
85 90 95

Gly Ser Asn Gly Met Gln Arg Leu Ser Phe Val Glu His Lys Lys Cys  
100 105 110

Asp Cys Arg Pro Arg Phe Thr Thr Pro Pro Thr Thr Arg Pro  
115 120 125

Pro Arg Arg Arg Arg  
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<210> 3

<211> 147

<212> PRT

<213> Homo sapiens

<400> 3

Met Asn Phe Leu Leu Ser Trp Val His Trp Ser Leu Ala Leu Leu Leu  
1 5 10 15

Tyr Leu His His Ala Lys Trp Ser Gln Ala Ala Pro Met Ala Glu Gly  
20 25 30

Gly Gly Gln Asn His His Glu Val Val Lys Phe Met Asp Val Tyr Gln  
35 40 45

Arg Ser Tyr Cys His Pro Ile Glu Thr Leu Val Asp Ile Phe Gln Glu  
50 55 60

Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys Pro Ser Cys Val Pro Leu  
65 70 75 80

Met Arg Cys Gly Gly Cys Ser Asn Asp Glu Gly Leu Glu Cys Val Pro  
85 90 95

Thr Glu Glu Ser Asn Ile Thr Met Gln Ile Met Arg Ile Lys Pro His  
100 105 110

Gln Gly Gln His Ile Gly Glu Met Ser Phe Leu Gln His Asn Lys Cys  
115 120 125

Glu Cys Arg Pro Lys Lys Asp Arg Ala Arg Gln Glu Asn Cys Asp Lys  
130 135 140

Pro Arg Arg  
145

<210> 4

<211> 191

<212> PRT

<213> Homo sapiens

<400> 4

Met Asn Phe Leu Leu Ser Trp Val His Trp Ser Leu Ala Leu Leu Leu  
1 5 10 15

Tyr Leu His His Ala Lys Trp Ser Gln Ala Ala Pro Met Ala Glu Gly  
20 25 30

Gly Gly Gln Asn His His Glu Val Val Lys Phe Met Asp Val Tyr Gln  
35 40 45

Arg Ser Tyr Cys His Pro Ile Glu Thr Leu Val Asp Ile Phe Gln Glu  
50 55 60

Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys Pro Ser Cys Val Pro Leu  
65 70 75 80

Met Arg Cys Gly Gly Cys Ser Asn Asp Glu Gly Leu Glu Cys Val Pro  
85 90 95

Thr Glu Glu Ser Asn Ile Thr Met Gln Ile Met Arg Ile Lys Pro His  
100 105 110

Gln Gly Gln His Ile Gly Glu Met Ser Phe Leu Gln His Asn Lys Cys  
115 120 125

Glu Cys Arg Pro Lys Lys Asp Arg Ala Arg Gln Glu Asn Pro Cys Gly  
130 135 140

Pro Cys Ser Glu Arg Arg Lys His Leu Phe Val Gln Asp Pro Gln Thr  
145 150 155 160

Cys Lys Cys Ser Cys Lys Asn Thr His Ser Arg Cys Lys Ala Arg Gln  
165 170 175

Leu Glu Leu Asn Glu Arg Thr Cys Arg Cys Asp Lys Pro Arg Arg  
180 185 190

<210> 5  
<211> 170  
<212> PRT  
<213> Homo sapiens

<400> 5  
Met Pro Val Met Arg Leu Phe Pro Cys Phe Leu Gln Leu Leu Ala Gly  
1 5 10 15

Leu Ala Leu Pro Ala Val Pro Pro Gln Gln Trp Ala Leu Ser Ala Gly  
20 25 30

Asn Gly Ser Ser Glu Val Glu Val Val Pro Phe Gln Glu Val Trp Gly  
35 40 45

Arg Ser Tyr Cys Arg Ala Leu Glu Arg Leu Val Asp Val Val Ser Glu  
50 55 60

Tyr Pro Ser Glu Val Glu His Met Phe Ser Pro Ser Cys Val Ser Leu  
65 70 75 80

Leu Arg Cys Thr Gly Cys Cys Gly Asp Glu Asp Leu His Cys Val Pro  
85 90 95

Val Glu Thr Ala Asn Val Thr Met Gln Leu Leu Lys Ile Arg Ser Gly  
100 105 110

Asp Arg Pro Ser Tyr Val Glu Leu Thr Phe Ser Gln His Val Arg Cys  
115 120 125

Glu Cys Arg Pro Leu Arg Glu Lys Met Lys Pro Glu Arg Arg Arg Pro  
130 135 140

Lys Gly Arg Gly Lys Arg Arg Glu Asn Gln Arg Pro Thr Asp Cys  
145 150 155 160

His Leu Cys Gly Asp Ala Val Pro Arg Arg

165

170

<210> 6  
<211> 188  
<212> PRT  
<213> Homo sapiens

<400> 6

Met	Ser	Pro	Leu	Leu	Arg	Arg	Leu	Leu	Leu	Ala	Ala	Leu	Leu	Gln	Leu
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Ala	Pro	Ala	Gln	Ala	Pro	Val	Ser	Gln	Pro	Asp	Ala	Pro	Gly	His	Gln
		20				25					30				
Arg	Lys	Val	Val	Ser	Trp	Ile	Asp	Val	Tyr	Thr	Arg	Ala	Thr	Cys	Gln
	35					40					45				
Pro	Arg	Glu	Val	Val	Val	Pro	Leu	Thr	Val	Glu	Leu	Met	Gly	Thr	Val
	50				55				60						
Ala	Lys	Gln	Leu	Val	Pro	Ser	Cys	Val	Thr	Val	Gln	Arg	Cys	Gly	Gly
65			70					75				80			
Cys	Cys	Pro	Asp	Asp	Gly	Leu	Glu	Cys	Val	Pro	Thr	Gly	Gln	His	Gln
	85				90					95					
Val	Arg	Met	Gln	Ile	Leu	Met	Ile	Arg	Tyr	Pro	Ser	Ser	Gln	Leu	Gly
	100				105				110						
Glu	Met	Ser	Leu	Glu	Glu	His	Ser	Gln	Cys	Glu	Cys	Arg	Pro	Lys	Lys
	115			120					125						
Lys	Asp	Ser	Ala	Val	Lys	Pro	Asp	Ser	Pro	Arg	Pro	Leu	Cys	Pro	Arg
	130				135				140						
Cys	Thr	Gln	His	His	Gln	Arg	Pro	Asp	Pro	Arg	Thr	Cys	Arg	Cys	Arg
145				150					155			160			
Cys	Arg	Arg	Arg	Ser	Phe	Leu	Arg	Cys	Gln	Gly	Arg	Gly	Leu	Glu	Leu
	165				170					175					
Asn	Pro	Asp	Thr	Cys	Arg	Cys	Arg	Lys	Leu	Arg	Arg				
	180					185									

<210> 7  
<211> 228

<212> PRT

<213> Homo sapiens

<400> 7

His Asn Arg Glu Gln Ala Asn Leu Asn Ser Arg Thr Glu Glu Thr Ile  
1 5 10 15

Lys Phe Ala Ala Ala His Tyr Asn Thr Glu Ile Leu Lys Ser Ile Asp  
20 25 30

Asn Glu Trp Arg Lys Thr Gln Cys Met Pro Arg Glu Val Cys Ile Asp  
35 40 45

Val Gly Lys Glu Phe Gly Val Ala Thr Asn Thr Phe Phe Lys Pro Pro  
50 55 60

Cys Val Ser Val Tyr Arg Cys Gly Gly Cys Cys Asn Ser Glu Gly Leu  
65 70 75 80

Gln Cys Met Asn Thr Ser Thr Ser Tyr Leu Ser Lys Thr Leu Phe Glu  
85 90 95

Ile Thr Val Pro Leu Ser Gln Gly Pro Lys Pro Val Thr Ile Ser Phe  
100 105 110

Ala Asn His Thr Ser Cys Arg Cys Met Ser Lys Leu Asp Val Tyr Arg  
115 120 125

Gln Val His Ser Ile Ile Arg Arg Ser Leu Pro Ala Thr Leu Pro Gln  
130 135 140

Cys Gln Ala Ala Asn Lys Thr Cys Pro Thr Asn Tyr Met Trp Asn Asn  
145 150 155 160

His Ile Cys Arg Cys Leu Ala Gln Glu Asp Phe Met Phe Ser Ser Asp  
165 170 175

Ala Gly Asp Asp Ser Thr Asp Gly Phe His Asp Ile Cys Gly Pro Asn  
180 185 190

Lys Glu Leu Asp Glu Glu Thr Cys Gln Cys Val Cys Arg Ala Gly Leu  
195 200 205

Arg Pro Ala Ser Cys Gly Pro His Lys Glu Leu Asp Arg Asn Ser Cys  
210 215 220

Gln Cys Val Cys

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<210> 8  
<211> 197  
<212> PRT  
<213> Homo sapiens

<400> 8

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Phe	Tyr	Asp	Ile	Glu	Thr	Leu	Lys	Val	Ile	Asp	Glu	Glu	Trp	Gln	Arg
										25					30
Thr	Gln	Cys	Ser	Pro	Arg	Glu	Thr	Cys	Val	Glu	Val	Ala	Ser	Glu	Leu
										40					45
Gly	Lys	Ser	Thr	Asn	Thr	Phe	Phe	Lys	Pro	Pro	Cys	Val	Asn	Val	Phe
										55					60
Arg	Cys	Gly	Gly	Cys	Cys	Asn	Glu	Glu	Ser	Leu	Ile	Cys	Met	Asn	Thr
										65	70				80
Ser	Thr	Ser	Tyr	Ile	Ser	Lys	Gln	Leu	Phe	Glu	Ile	Ser	Val	Pro	Leu
										85		90			95
Thr	Ser	Val	Pro	Glu	Leu	Val	Pro	Val	Lys	Val	Ala	Asn	His	Thr	Gly
										100		105			110
Cys	Lys	Cys	Leu	Pro	Thr	Ala	Pro	Arg	His	Pro	Tyr	Ser	Ile	Ile	Arg
										115		120			125
Arg	Ser	Ile	Gln	Ile	Pro	Glu	Glu	Asp	Arg	Cys	Ser	His	Ser	Lys	Lys
										130		135			140
Leu	Cys	Pro	Ile	Asp	Met	Leu	Trp	Asp	Ser	Asn	Lys	Cys	Lys	Cys	Val
										145		150			160
Leu	Gln	Glu	Glu	Asn	Pro	Leu	Ala	Gly	Thr	Glu	Asp	His	Ser	His	Leu
										165		170			175
Gln	Glu	Pro	Ala	Leu	Cys	Gly	Pro	His	Met	Met	Phe	Asp	Glu	Asp	Arg
										180		185			190
Cys	Glu	Cys	Val	Cys											
										195					

<210> 9  
<211> 13  
<212> PRT  
<213> Orf virus

<400> 9  
Pro Xaa Cys Xaa Xaa Xaa Xaa Arg Cys Xaa Gly Cys Cys  
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<210> 10  
<211> 399  
<212> DNA  
<213> Orf virus

<400> 10  
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gtcgccccg taggcgagggc gcacccagag ctaacttctc agcggttcaa cccgcagtgt 180  
gtcacagtgta tgcgatgcgg cgggtgctgc aacgacgaga gcttggatg cgtccccacg 240  
gaagaggcaa acgtgacgat gcaactcatg ggggcgtcgg tctccgtgg taacggatg 300  
caacattga tattcgtaga gcataagaaa tgcgattgta aaccacgact cacaaccacg 360  
ccaccgacga ccacaaggcc gcccagaaga cgccgctag 399

<210> 11  
<211> 132  
<212> PRT  
<213> Orf virus

<400> 11  
Met Lys Leu Leu Val Gly Ile Leu Val Ala Val Cys Leu His Gln Tyr  
1 5 10 15

Leu Leu Asn Ala Asp Ser Thr Lys Thr Trp Ser Glu Val Phe Glu Ser  
20 25 30

Ser Lys Cys Lys Pro Arg Pro Thr Val Val Pro Val Gly Glu Ala His  
35 40 45

Pro Glu Leu Thr Ser Gln Arg Phe Asn Pro Gln Cys Val Thr Val Met  
50 55 60

Arg Cys Gly Gly Cys Cys Asn Asp Glu Ser Leu Glu Cys Val Pro Thr  
65 70 75 80

Glu Glu Ala Asn Val Thr Met Gln Leu Met Gly Ala Ser Val Ser Gly  
85 90 95

Gly Asn Gly Met Gln His Leu Ile Phe Val Glu His Lys Lys Cys Asp  
100 105 110

Cys Lys Pro Arg Leu Thr Thr Pro Pro Thr Thr Thr Arg Pro Pro  
115 120 125

Arg Arg Arg Arg  
130